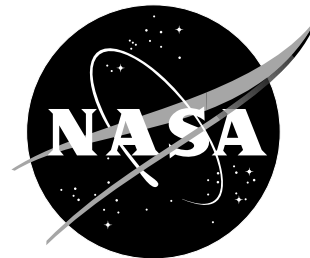


NewsRelease



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NASA Langley to shut down transonic wind tunnel

As part of a national initiative to optimize government-owned wind tunnels, NASA's Langley Research Center will shut down its 16-Foot Transonic Tunnel and transition work to other facilities. The tunnel is scheduled to be put in mothball status September 30, 2004. "Mothball" status means that the facility could be made operational within six to 12 months and that maintenance to the tunnel would be limited to facility preservation only.

Research tests are booked at the tunnel through September 2003 and all those tests will be completed. The Center anticipates that no civil service jobs will be lost as the tunnel's staff of 18 researchers and technicians will be reassigned to other facilities.

This decision is the result of an ongoing NASA-DoD alliance studying investment planning in wind tunnel assets. Looking at research capabilities from a national, multi-agency perspective will allow NASA to most effectively invest its limited resources.

"Doors opened here in Hampton in 1917," said Langley Research Center Director Jeremiah F. Creedon. "We have brought on line and shut down wind tunnels as the needs of the nation have evolved. Though we are mothballing the 16-Foot Tunnel, we are retaining and enhancing a more modern facility, the National Transonic Facility (NTF), that encompasses most of the capabilities of the older tunnel and offers more."

The 16-Foot Transonic Tunnel has supported most major military programs both in their developmental stage and in on-going propulsion integration research. This long history has included all fighters since the 1960s, such as the F-14, F-15, F-18 and the Joint Strike Fighter. The tunnel has also supported NASA programs by doing extensive testing for the Space Shuttle, Reusable Launch Vehicles, Hyper-X and other experimental programs.

The more modern NTF is a high-pressure, cryogenic, closed circuit wind tunnel that provides full-scale flight conditions using scale models. NTF provides testing in stability and control, cruise performance, stall buffet onset and configuration aerodynamics validation for both full-span and half-span models.

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The tunnel has two modes of operation. In the variable temperature cryogenic mode, nitrogen is the test gas. In this mode, the NTF provides full-scale flight conditions without an increase in model size. In the other mode, air is the test gas and the facility operates much like a conventional tunnel. NTF can duplicate 16-ft conditions, but models must be appropriately reduced in size.

Wind tunnels help researchers understand the forces acting on an object as it moves through the atmosphere. They are used in conjunction with computers and flight simulators to learn about the flight characteristics of new aircraft designs and design modifications.

Components such as structural materials, wings, ailerons, horizontal stabilizers, fuselages, power systems, engine cowlings, landing gear affect the flight characteristics of aircraft. Small changes to one component can result in the modification of another components on the aircraft. All effects of the changes may not be clear until the aircraft experiences flight conditions.

Tests with models in wind tunnels allow the study of aircraft designs without risk to a pilot or the expense of building a new full-size test aircraft for every design improvement. They are also used to measure and minimize aircraft noise and to optimize engine efficiency. Although primarily used for airplanes, other objects such as spacecraft, automobiles, ships, trucks and even wheelchairs have been tested in Langley wind tunnels.